



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,801	06/27/2003	Qinghua Li	42P16725	6519
59796 7590 02/19/2009 INTEL CORPORATION c/o CPA Global P.O. BOX 52050 MINNEAPOLIS, MN 55402			EXAMINER MANCUSO, HUEDUNG XUAN CAO	
			ART UNIT 2821	PAPER NUMBER
			MAIL DATE 02/19/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/607,801

Applicant(s)

LI ET AL.

Examiner

HUEDUNG Cao MANCUSO

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/31/08.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3, 5, 8, 9 and 15-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5, 8-9, 15-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-549)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Applicant's remarks have been fully considered but are not found to be convincing. Specifically, the applicant is arguing that the applied reference (Lindenmeier, 6,768,457) does not disclose the "partitioning ..." and "replacing ..." steps of claim 1 and the corresponding steps in claim 8. The examiner disagrees. The applicant is apparently reading the claim limitations more narrowly than is required by the actual claim language.

As to the "partitioning" step, Lindenmeier may not actually use the terms "tiers" but by selecting various antennas (using switches 2 in Figs 1a-e, for example) the group of antennas are separated into different subsets; selected and not selected which correspond to the claimed two tiers.

As to the claimed "replacing" step, attention is directed to col. 13, lines 15-64 of Lindenmeier, which was cited in the rejection of claim 8. This section, in combination with the other sections of the reference, makes it clear that the selected antennas are selected to produce the best performance ("finding the most favorable reception level ... The maximum signal level switching positions Smax 37 is determined and issues ..." col. 13, lines 22-31 and "selecting the most favorable reception signal 5" col. 13, lines 32-35). Thus it is clear that the antennas are selected to produce the best performance of the antenna by selecting ("replacing") an antenna to be used or not be used.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 3, 5, 8-9, and 15-17 are rejected under 35 U.S.C. 102(e) as being anticipated by LINDENMEIER (US 6,768,457 B2).

As per claim 1, Lindenmeier teaches the claimed method, comprising:
partitioning multiple antennas into a first tier and a second tier, the first tier having one antenna selected as a receiving antenna and non-selected antenna in the second tier (Lindenmeier, column 9, lines 28-44, column 15, lines 12-33); receiving a framed digital signal having preamble symbols in a mobile device (Lindenmeier, abstract, column 10, lines 38-45); sequentially switching the non-selected antenna in the second tier to process portions of the preamble symbols in a receiver of the (Lindenmeier, column 9, lines 32-37, column 12, lines 1-21); and replacing the receiving antenna in the first tier with an antenna in the second tier that has the signal quality higher than the one antenna in the first tier (Lindenmeier, column 9, lines 28-44, column 13, lines 15-64, column 15, lines 12-33).

Claim 3 adds into claim 2, evaluating a signal quality of signals received by the non-selected antenna further comprises; demodulating the signals in a single receiver chain to generate quadrature signals; and comparing the quadrature signals to

determine which of the non-selected antenna in the second tier provides the higher signal quality (Lindenmeier, abstract, column 13, lines 15-36, column 15, line 51-column 16, line 11).

Claim 5 adds into claim 1, comparing the the signal quality of the signals received by the non-selected antenna in the second tier, one by one, to dynamically determine the antenna having the higher signal quality (Lindenmeier, column 9, lines 15-44).

As per claim 8, Lindenmeier teaches the method, comprising: partitioning a first antenna in a first tier and a second tier and third antenna in a second tier (Lindenmeier, column 9, lines 28-44, column 15, lines 12-33); controlling a switch in a transceiver of a mobile device to sequentially provide signals received by the second and third antennas to an input a single receiver where preamble are symbols used to evaluate signal quality for the second and third antennas in a single frame (Lindenmeier, abstract, column 9, lines 32-37, column 12, lines 1-21); selecting the second and third antennas having a higher signal quality of the first antenna to replace the first antenna in the first tier as the receiving antenna for the mobile device (Lindenmeier, column 9, lines 28-44, column 13, lines 15-64).

Claim 9 adds into claim 8, evaluating the signals received by the second and third antennas to compare the signals received by the second and third antennas as to the signal quality (Lindenmeier, column 11, lines 2-34).

Claims 15-17 claim a system based on a method of claims 8-9; therefore, they are rejected for the same reason.

Conclusion

4. This is a continued examination of applicant's earlier Application No. 10/607,801. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huedung Mancuso whose telephone number is (571) 272-1939.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Owens, can be reached on (571) 272-1662. The fax phone

Art Unit: 2821

number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Huedung Cao Mancuso/
Examiner, Art Unit 2821